

REMARKS

Reconsideration and withdrawal of the objections to and rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 1-45, 47, 48, 62-74 and 77-82 are now pending. Claims 4, 9-10, 26-27, 32, and 67 were amended, and claim 46 cancelled, without prejudice.

Attached hereto is a marked up version of the changes made to the claims. This attachment is captioned "Version with Markings To Show Changes Made."

No new matter is added by this amendment.

It is submitted that these claims are patentably distinct from the prior art cited by the Examiner, and that these claims are in full compliance with the requirements of 35 U.S.C. §112. The amendments and remarks herein are not made for the purpose of patentability within the meaning of 35 U.S.C. §§ 101, 102, 103 or 112; but rather the amendments and remarks are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

Support for the amended recitations in the claims is found throughout the specification and from the pending claims.

II. 37 C.F.R. 1.75(c), OBJECTION

Claim 46 was objected to under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. The rejection is respectfully traversed.

The cancellation of claim 46, without prejudice, has rendered the objection moot.

Consequently, reconsideration and withdrawal of the objections are respectfully requested.

III. 35 U.S.C. § 112, SECOND PARAGRAPH, REJECTION

Claims 4, 9, 10, 26, 27, and 32 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The rejection is respectfully traversed.

The amendments to the claims, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, have rendered the instant rejection moot.

Consequently, reconsideration and withdrawal of the Section 112, second paragraph rejection are respectfully requested.

IV. 35 U.S.C. § 102, REJECTION

Claims 67 and 70 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 3,561,219 (“the ‘219 patent”) to Nishizawa et al. (“Nishizawa”). The rejection is respectfully traversed.

It is respectfully pointed out that a two-prong inquiry must be satisfied in order for a Section 102 rejection to stand. First, the prior art reference must contain all of the elements of the claimed invention. See *Lewmar Marine Inc. v. Barient, Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). Second, the prior art must contain an enabling disclosure. See *Chester v. Miller*, 15 U.S.P.Q.2d 1333, 1336 (Fed. Cir. 1990). A reference contains an enabling disclosure if a person of ordinary skill in the art could have combined the description of the invention in the prior art

reference with his own knowledge of the art to have placed himself in possession of the invention. *See In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Applying the law to the instant facts, the document relied upon in the Office Action does not disclose, suggest or enable Applicants' invention.

The instant invention is directed to, *inter alia*, a seamless, woven, flexible fluid containment vessel or vessels for transporting and containing a large volume of fluid or fluidisable material, particularly fresh water. The instant invention includes, *inter alia*, woven seamless fabric impervious to water and other fluids or fluidisable materials having a density less than that of salt water. Nishizawa does not disclose, teach, suggest or imply that its invention is impervious to water and other fluids or fluidisable materials having a density less than that of salt water. In fact, Nishizawa discloses a mesh fabric with a mesh size to permit passage of water. As the reference cited by the Examiner does not contain each and every element of the claimed invention, the anticipation rejection must fail as a matter of law.

Consequently, reconsideration and withdrawal of the Section 102 rejection are respectfully requested.

V. 35 U.S.C. § 103, REJECTION

Claims 1-6, 12, 18-24, 29, 31, 34, and 40-45 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 2,997,973 ("the '973 patent") to Hawthorne et al. ("Hawthorne") in view of U.S. Patent No. 5,421,128 to Sharpless et al. ("Sharpless"). The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

It is respectfully asserted that it is well-settled that there must be some prior art teaching which would have provided the necessary incentive or motivation for modifying the reference teachings. *In re Laskowski*, 12 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Obukowitz*, 27 U.S.P.Q. 2d 1063 (BOPAI 1993). Further, "obvious to try" is not the standard under 35 U.S.C. §103. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1599 (Fed. Cir. 1988). And, as stated by the Court in *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-1784 (Fed. Cir. 1992): "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification." Also, the Examiner is respectfully reminded that for the Section 103 rejection to be proper, **both the suggestion of the claimed invention and the expectation of success must be founded in the prior art, and not Applicants' disclosure.** *In re Dow*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988).

None of the documents relied upon in the Office Action satisfies the requirements for obviousness. For example, none of the documents possess the requisite suggestion or motivating recitation that would lead a skilled artisan to practice, *inter alia*, the instantly claimed seamless, woven, flexible fluid containment vessel or vessels for transporting and containing a large volume of fluid or fluidisable material having beam stabilizers, beam separators, and reinforcing elements as set forth in the respective claims.

Hawthorne does not satisfy the requirements for obviousness. Hawthorne discloses a collapsible barge made of flexible material for transporting or storing liquids or fluidisable solids. With respect to instant claim 1, the present invention comprises at least one flexible longitudinal stiffening beam positioned along a length of said tubular structure for dampening undesired oscillation of said tubular structure. With respect to instant claim 29, the present invention comprises a tubular structure with reinforcement elements along a longitudinal length

of the tubular structure. Hawthorne not only does not teach the use of stiffening beams to rigidize the vessel, Hawthorne teaches away from the prior art's use of stiff and rigid materials in the construction of a vessel for transporting liquid, intending its invention to be as malleable as possible in order to facilitate storage by winding and folding the collapsed fabric vessel. (*see* Hawthorne, column 1, lines 16-19, 29, column 2, lines 9-10). Furthermore, Hawthorne offers no motivation or suggestion to utilize stiffening beams. Hawthorne, therefore, does not, and the Examiner concedes it does not, disclose (1) at least one longitudinal stiffening beam, said beam being integral with the tubular structure; (2) circumference stiffening beams formed integrally with the tubular structure; (3) plural vessel positioned side by side with beams connecting and separating the vessels; (4) at least one longitudinal stiffening beam in a sleeve, said sleeve being woven seamlessly with the woven fabric; and (5) circumferential stiffening beams held by integrally formed circumferential pockets as set forth in the respective claims. The Examiner also concedes that Hawthorne does not disclose (1) a flattened, folded end structure that is mechanically secured; (2) the use of fibers with low melting points to fill the voids in the weave; and (3) that the front end is a flattened bow-like structure that is perpendicular to the waterline. The Examiner is respectfully reminded that picking and choosing portions of disparate references in a hindsight attempt to formulate an obviousness rejection is impermissible.

Sharpless discloses a curved, inflated, tubular beam, where the curvature is determined by the arrangement of bias and axial fibers. The invention is directed to inflatable beams used in rapidly deployable shelters and for spars in deployable wings. There is no suggestion or motivation to utilize curved, inflated, tubular beams in a flexible fluid containment vessel. Therefore, Sharpless does not suggest or motivate one skilled in the art to utilize longitudinal stiffening beams in the instant invention.

Claims 7-10, 30, and 32 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the modified invention of the '973 patent to Hawthorne in further view of U.S. Patent No. 3,955,524 ("the '524 patent") to Renoux. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 7-10, 30, and 32 include at least one flexible circumferential stiffening beam positioned about a circumference of the tubular structure and integrally formed therewith and being subject to pressurization and depressurization. Hawthorne does not, and the Examiner concedes it does not, disclose circumferential stiffening beams formed integrally with the tubular structure. Furthermore, there is no motivation or suggestion to combine Hawthorne with Renoux.

Renoux discloses a marine trailer of flexible construction, where rigidity is provided by conduits either longitudinally or circumferentially. Such reinforcements, however, suffer the disadvantages of requiring their attachment to the container. Moreover, external reinforcements, such as element 4, on the container's surface comprising rigid plastic rings which are apparently necessary in the Renoux arrangement provide for increased drag during towing, in addition to impeding a rolling up of the structure. The instant invention comprises, *inter alia*, circumferential stiffening beams formed integrally with the tubular structure. Renoux teaches away from the instant invention, wherein its conduits are positioned not integral but rather are attached (i.e. by molding) and include rigid plastic members.

Claims 11, 13-17, 33, and 35-39 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the modified invention of the '973 patent to Hawthorne in further view

of GB 933,889 (“the ‘889 patent”) to Cann et al. (“Cann”). The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants’ invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 11, 13-17, 33, and 35-39 include means for sealing an end of the tubular structure comprising collapsing the end upon itself into a flattened, folded structure, sealing it and securing it mechanically. Hawthorne does not, and the Examiner concedes it does not, disclose a flattened, folded end structure that is mechanically secured. Furthermore, there is no motivation or suggestion to combine Hawthorne with Cann.

Cann discloses a container for towing liquids over water. Cann discloses sealing an end of the vessel by bringing the two halves of the circumference into contact and clamping them together and/or bonding the opposed surfaces (Cann, column 1, lines 24-27). This flattened sealing method allows for direct attachment of a hollow member to serve both as a towing bar and as a means for imparting buoyancy. Cann, however, does not suggest the combination of its sealing method with Hawthorne.

Claims 25, 26, 47, and 48 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the modified invention of the ‘973 patent to Hawthorne in further view of U.S. Patent No. 4,668,545 to Lowe. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants’ invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 25, 26, 47, and 48 disclose means for rendering the tubular structure impervious by weaving the tubular structure with at least two materials, one being a reinforcing fiber, the other being a low melting fiber or low melting component of the reinforcing fiber such that a

processing thereof causes the low melting fiber or component to fill the void in the fabric.

Hawthorne does not, and the Examiner concedes it does not, disclose the use of fibers with low melting points to fill the voids in the weave. Furthermore, there is no motivation or suggestion to combine Hawthorne with Lowe.

Lowe discloses heat-activatable shaped hollow woven fabrics useful in the energy, telecommunications, electronics, pipeline and related industries. Lowe emphasizes conductivity and heat-recoverability of the fabrics. Lowe does not suggest or teach use of heat-activatable fabric with the instant invention.

Claim 27 was rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the modified invention of the '973 patent to Hawthorne in further view of U.S. Patent No. 3,952,679 to Grihangne and the '219 patent to Nishizawa. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claim 27 includes at least two vessels positioned in a side by side relationship, a plurality of beam separators positioned between and coupled to said two vessels, said beam separator being made of flexible material and subject to pressurization and depressurization. Hawthorne does not, and the Examiner concedes it does not, disclose a plurality of vessels positioned side by side with beams connecting and separating the vessels. Furthermore, there is no motivation or suggestion to combine Hawthorne with Grihangne, nor Grihangne with Nishizawa.

Grihangne discloses linkage of two tanks with a single beam. Grihangne does not teach or suggest Applicants' invention.

Nishizawa discloses a fabric mesh mat containing hollowed portions separated by connecting portions without using any connecting sewing threads. Nishizawa does not disclose

utilization of beam separators to connect the hollowed portions. Furthermore, as discussed previously, Nishizawa, in general, teaches away from the present invention of fluid containment, and therefore does not teach or suggest Applicants' invention.

Claim 28 was rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the modified invention of the '973 patent to Hawthorne in further view of U.S. Patent No. 3,067,712 to Doerpinghaus and the '219 patent to Nishizawa. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claim 28 includes at least two vessels positioned in a side by side relationship, a plurality of beam separators, wherein said beam separators are made of a woven material. Hawthorne does not, and the Examiner concedes it does not, disclose a plurality of vessels positioned side by side with a woven material connecting and separating the vessels. Furthermore, there is no motivation or suggestion to combine Hawthorne with Doerpinghaus, nor Doerpinghaus with Nishizawa.

Doerpinghaus discloses multiple container cells held together with a net surrounding the multiple container cells. This net is separate and external to the material of the container cells. Furthermore, Doerpinghaus does not teach or suggest incorporation of the net into a unitary structure for towing multiple vessels.

Nishizawa discloses a fabric mesh mat containing hollowed portions separated by connecting portions without using any connecting sewing threads. Nishizawa does not disclose utilization of woven beam separators to connect the hollowed portions. Furthermore, as discussed previously, Nishizawa, in general, teaches away from the present invention of fluid containment, and therefore does not teach or suggest Applicants' invention.

Claims 62-66 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the '973 patent to Hawthorne in view of the '889 patent to Cann. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 62-66 disclose a means for sealing the front end of the tubular structure by collapsing, folding, and sealing the front end of the tubular structure in such a manner so as to create a bow like structure at the front end which is perpendicular to the surface of the water in which the vessel floats. Hawthorne does not, and the Examiner concedes it does not, disclose that the front end is a flattened bow-like structure that is perpendicular to the waterline. Furthermore, there is no motivation or suggestion to combine Hawthorne with Cann.

Cann discloses a container for towing liquids over water. Cann does not disclose a front end that is a flattened bow like structure that is perpendicular to the waterline, nor does it suggest reversing the orientation of the two ends.

Claims 68-69 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the '219 patent to Nishizawa in view of the '973 patent to Hawthorne. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Nishizawa does not satisfy the requirements for obviousness. Instant claims 68-69 disclose a means for filling and emptying the tubular structure with a tube woven seamless with the tubular structures. Nishizawa does not, and the Examiner concedes it does not, disclose that the means for filling and emptying comprises a tube woven seamless with the fabric. Furthermore, there is no motivation or suggestion to combine Nishizawa with

Hawthorne. In fact, Nishizawa discloses a means for filling and emptying comprising use of a pump.

Claims 71-74 and 77-79 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the '973 patent to Hawthorne in view of GB 826,301 to Ashton. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 71-74 and 77-79 disclose at least one flexible longitudinal stiffening beam maintained within a sleeve woven seamless with the tubular structure along a length thereof and subject to pressurization and depressurization. Hawthorne does not, and the Examiner concedes it does not, disclose at least one longitudinal stiffening beam held in a sleeve, said sleeve being woven seamlessly with the woven fabric. Furthermore, there is no motivation or suggestion to combine Hawthorne with Ashton.

Ashton also does not satisfy the requirements for obviousness. Ashton does not, and the Examiner concedes it does not, disclose a method for attaching the pockets. Ashton, therefore, cannot teach or suggest a method of attachment including seamless weaving.

Claims 80-82 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the modified invention of the '973 patent to Hawthorne in further view of the '524 patent to Renoux. The rejection is respectfully traversed. None of the references, either individually or in combination, teach or suggest Applicants' invention.

As discussed previously, Hawthorne does not satisfy the requirements for obviousness. Instant claims 80-82 include a plurality of circumferential pockets having respective circumferential reinforcing elements therein positioned about a circumference of the tubular

structure and integrally formed therewith. Hawthorne does not, and the Examiner concedes it does not, disclose circumferential stiffening beams held by integrally formed circumferential pockets. Furthermore, there is no motivation or suggestion to combine Hawthorne with Renoux.

Renoux discloses longitudinal and circumferential conduits which are attached to the vessel by, for example, welding. Renoux also does not disclose, teach, or suggest a method of attachment using pockets.

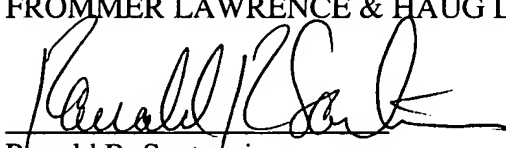
Consequently, reconsideration and withdrawal of the Section 103 rejections are warranted and respectfully requested.

CONCLUSION

By this Amendment, the instant claims should be allowed; and this application is in condition for allowance. Favorable reconsideration of the application, withdrawal of the rejections and objections, and prompt issuance of the Notice of Allowance are, therefore, all earnestly solicited.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

By:


Ronald R. Santucci
Reg. No. 28,988
Joyce W. Luk
Reg. No. 51,975
Tel: (212) 588-0800
Fax: (212) 588-0500

VERSION WITH MARKINGS TO SHOW CHANGES MADE

4. (Amended) The vessel in accordance with claim 3, [which includes] further comprising a third longitudinal stiffening beam positioned intermediate [the] to said two longitudinal stiffening beams, with said third beam being so positioned as to provide ballast when filled, and wherein said longitudinal stiffening beams are fillable.

9. (Amended) The vessel in accordance with claim 7 wherein said at least one flexible circumferential stiffening beam is continuous.

10. (Amended) The vessel in accordance with claim 7 wherein said at least one flexible circumferential stiffening beam is in sections. 26. (Amended) The vessel in accordance with claim 19 wherein the means for rendering the tubular structure impervious includes weaving the tubular structure with at least two materials, one being a reinforcing fiber, the other being a low melting fiber or low melting component of the reinforcing fiber such that a processing thereof causes the low melting fiber or component to fill [the] a void in the fabric.

27. (Amended) The vessel in accordance with claim 1 which includes at least two vessels positioned in a side by side relationship, a plurality of beam separators positioned between and coupled to said two vessels, said plurality of beam [separator] separators being made of flexible material and subject to pressurization and depressurization.

32. (Amended) The vessel in accordance with claim 30 wherein the reinforcing element along a longitudinal length and along a circumference of the tubular structure is taken from the group consisting essentially of: yarns of larger size than yarns that make up the majority of the tubular structure, yarns of higher specific strength than yarns that make up the majority of the tubular structure, rope and braid.

67. (Amended) A flexible fluid containment vessel for the transportation and/or containment of cargo comprising a fluid or fluidisable material, said vessel comprising:

- at least two elongated flexible tubular structures of woven seamless fabric;
- means for rendering said tubular structures impervious to water and other fluids or fluidisable materials having a density less than that of salt water;
- said tubular structures having a respective front end and a rear end;
- means for sealing said respective front end and said rear end;
- means for filling and emptying said vessel of cargo; and
- means for connecting said tubular structures together in a series comprising a woven flat fabric woven seamless with said tubular structures and positioned therebetween.